



## PROTECTING YOURSELF & YOUR FAMILY *from Emerging Disease*

News stories and headlines warn us about new and/or re-emerging diseases seemingly every year. But how much of a danger do these diseases really pose? What can you do to reduce the risk from new diseases in your community?

Emerging diseases are caused by microbes, usually bacteria or viruses, that haven't infected people before or that already infect people but have moved to new places.

New diseases emerge all the time from the animal world. Part of the reason is that the genes in bacteria and viruses are always changing. These gene changes, called mutations, help microbes survive and spread. Some make it possible for bacteria or viruses that once only infected animals to infect people.

Bacteria and viruses often get from animals to people by way of insects and parasites. The most common of these are mosquitoes and ticks.

### **THE CHANGING LANDSCAPE OF DISEASE & INFECTIONS**

The modern world has changed how animals, insects, and people encounter each other. Deforestation increases the chances that humans come in contact with forest-dwelling creatures and insects. As people move further into undeveloped areas, they become more likely to encounter animals and insects that carry microbes they haven't been exposed to before.

More people moving to large cities also plays a role in the spread of disease. When millions of people live close to each other—and close to mosquitoes that like to live in cities—diseases can move quickly.

Changes in the environment can also contribute. Most microbes—and the insects that carry them—can only live within a narrow range of conditions. With a warming

planet, these infections shift geographically into new areas.

On the surface, the numbers look alarming. Between 2004 and 2016, nine new diseases that are spread by mosquitoes and ticks were found in the U.S.

The number of people exposed to these diseases is also rising. For example, the Centers for Disease Control and Prevention (CDC) reported a record number of tickborne-disease cases nationwide in 2017: almost 60,000.

But new insect-borne diseases are still less frequent than some other better-known diseases. In comparison, experts estimate that over a million people get the flu every year in the U.S.

Most people who catch a disease carried by mosquitoes or ticks fight off the invaders quickly.

It's still important to know what new diseases are in your area. Many of these diseases have vague symptoms, such as fever, a rash, body aches, or feeling very tired. People and their doctors may not always suspect exposure to an insect-borne disease.

Different new diseases tend to cluster in certain areas. Most cases of Lyme disease occur in the Northeast and upper Midwest. Dengue fever has been seen in warm areas such as Florida and Texas.

Your local public health office can give you information about what new diseases are found in your area.

## PROTECT YOURSELF

Depending on where you travel, you may come into contact with diseases that are rare in the U.S. Before you travel, talk to your doctor about getting vaccinated. It will help keep you safe and healthy. It will also help make sure that you don't bring any serious diseases home to your family, friends, and community.



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## REDUCE YOUR RISK OF DISEASES SPREAD BY MOSQUITOES AND TICKS:

- » **Check your yard.** Pour out standing water in old tires, flower pots, buckets, toys, or any other place where mosquitoes can breed. This includes even the tiniest places where water can collect.
- » **Use insect repellent when going outside.**
- » **Wear long sleeves and pants.** Fabric can help prevent bugs from getting to your skin. Tuck your pants into your socks when walking in an area with ticks.
- » **Use screens on open windows.** Screens can keep mosquitoes from getting in the house. Use air conditioning instead, if possible.
- » **Check your body for ticks.** After being outside in an area with ticks, check your body in the mirror. Have a family member look at areas you can't see.
- » **If you find a tick, remove it immediately.**
- » **Treat your pets with flea and tick preventative.** This can keep them from bringing bugs into the house.